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AUTHOR Musick, Craig D.
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ABSTRACT

In this presentation, Craig D. Musick, director of training for the Graniteville Company in South Carolina and president of the American Society for Training and Development (ASTD), focuses on how research can contribute to a better understanding of the vocational training process. He states that only by working together with the schools can industry hope to meet its needs for personnel trained to produce the goods and services of the future. Musick emphasizes the need for closer cooperation between industry and traditional in-school training programs as students move back and forth between the classroom and the work place. He notes the increasing age of the American workforce and discusses the implications of the age increase in regard to increased training needs, the need for greater productivity, and increasing mechanization of the work place. In a question-and-answer session, Musick describes training programs carried out by the textile company for which he works, and focuses on training research provided by the ASTD. (KC)

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Occasional Paper No. 67

PROBLEMS AND ISSUES IN INDUSTRY-SPONSORED VOCATIONAL PROGRAMS:
Implications for Research and Development

by

Craig D. Musick
President
American Society for Training and Development

The National Center for Research in Vocational Education
The Ohio State University
1960 Kenny Road
Columbus, Ohio 43210

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FOREWORD

The National Center for Research in Vocational Education and The Ohio State University welcomed a presentation by Craig D. Musick, president of the American Society for Training and Development (ASTD) entitled "Problems and Issues in Industry-Sponsored Vocational Programs: Implications for Research and Development."

Musick is director of training for Graniteville Company in Graniteville, South Carolina. He is responsible for a range of vocational, technical, supervisory, and management training programs for the company.

In his presentation, Musick focuses on how research can contribute to a better understanding of the vocational training process. He states that only by working together with the schools can industry hope to meet its needs for personnel trained to produce the goods and services of the future. Musick emphasizes the need for closer cooperation between industry and traditional inschool training programs as students move back and forth between the classroom and the work place.

As president of ASTD, Musick heads a 20,000-member organization of specialists working in fields of training, adult education, and human resource development in the world of work. The society has 119 chapters organized into nine regions covering the United States. ASTD provides professional development services to its members and serves as a communications link through the use of publications, meetings, and subgroups focused on special interests or national issues.

On behalf of the National Center for Research in Vocational Education and The Ohio State University, we take pleasure in sharing with you Craig Musick's presentation, "Problems and Issues in Industry-Sponsored Vocational Programs: Implications for Research and Development."

Robert E. Taylor
Executive Director
The National Center for Research
in Vocational Education

PROBLEMS AND ISSUES IN INDUSTRY-SPONSORED VOCATIONAL PROGRAMS:
Implications for Research and Development

Before I talk about the problems and issues of industry-sponsored vocational education programs and some of their implications for research and development, I would like to review briefly and give my personal views on some conditions that are prevailing in the 1980s, so that we can better see how they will affect the training and development field in the decade ahead. Many of these, of course, will not be any revelation to you.

We must assuredly look at the economy because I believe it has a direct bearing on where we are going in the future of vocational education. I believe the economy is going to have a slow rate of growth; and certainly that is no secret to anyone. Inflation is obviously a prevailing condition. I believe that it will cause a widening gap between the incomes of the rich and poor. As a result of inflation it is predicted among other things that the price of gasoline will go to two dollars a gallon by the end of this year. The international monetary crisis is another condition of the eighties, as is the present heightened world market competition. Labor union pressures are also a factor of the eighties; I believe that unions will exert a big effort to increase union membership. Energy constraints are yet another prevailing condition to be considered in the decade ahead. I have recently been asked what the textile industry has done to provide a model for conserving energy. One such effort involves the air conditioners at our textile mill. We used to run them in the winter because it would get too warm, but now we merely open a little hatch and let the cold air come in, because we must keep the machinery at seventy-six degrees to make it run. All of these prevailing conditions that have a bearing on the economy will in turn affect the industry-sponsored vocational instruction field, because management will have to make increasing efforts to get money for this purpose. For some reason training seems to increase during hard times, especially in the industrial area.

It is pertinent to our subject to look at the American labor scene itself, where some important changes are occurring. The average age of the American worker, which, as you probably know, was twenty-eight in 1975 and thirty-seven and one-half in 1980, is predicted to be about forty in 1990. At the Graniteville Company we built a new half-million-dollar training center during a seven-quarter period in which we lost money. I was severely criticized for this, but we have recovered from our slump and are training just as actively now during our good times as we did during our bad times. It is therefore important to this effort that management be aware of the fact that the eighteen- to twenty-five-year-old population group is shrinking significantly. This affects vocational education by causing it to gear for retraining, that is, to upgrade the training for the people who are already employed.

One of the ways our company and AT&T does that is by job posting. I have just written a plan for this called "job request system," whereby the employees, using published information on the subject, decide on various jobs they would like to have, and then determine the prerequisites for those jobs. One of the prerequisites may be that the worker applicants must, for example, attend a vocational school that is sponsored by the company/technical system/Georgia Institute of Technology in the state of Georgia. Those workers would have to satisfy that prerequisite and have a completed

unit card in that area before they could take the company's full-fledged eighteen-week technician course. But what we must realize is that the people who take these courses are as a working population getting older and, as such, *are going to have to become mechanized more than ever before.* Apropos of this situation is the Cincinnati company that is building a robot plant in Greenwood, South Carolina. The company has given Piedmont Technical College two million dollars worth of equipment to teach workers to build the robots. Robots cost about eighty thousand, don't take work breaks or ask for wage increases, and they are on the job every day. Of course the jobs they will perform are menial, but the situation is unsettling. In any event, the growing forty- to fifty-year-old market force needing training is forcing education to look for adult education funds.

I am always asked how much industry spends on training. My company, Graniteville, spends such money just to train and upgrade its incumbent workers. It is a relatively small company of seven thousand employees and with an annual sales of about $300 million, and yet it spends over a million dollars a year just to train its people. Thus the older work force is having and will be having a greater and greater impact on adult learning, as well as the accompanying search for funds.

Another current condition that requires consideration in industry-sponsored vocational education is the increased mobility of the worker. Some statistics indicate that a worker will move thirteen times in a lifetime. I attended thirteen different grade schools, and as an adult have moved several times. Such mobility will surely affect employment and training as resultant job and occupation changes occur. Another feature of the coming decade, one effected by energy constraints, is a geographic shift in construction. My prediction (which may well be wrong) is that as energy becomes an increasing problem, less construction will take place in the North and more construction will take place in the Southeast, Southwest, and West coast.

Other aspects of the eighties will also impact upon vocational education development in the nineties. A decrease in family size, brought on by later marriage, an increase in divorce, and a dropping birth rate, will affect not only the training industry, but all of society. We are going to see more frequent job changes and occupation changes. Right now 12 percent of the work force changes jobs annually. Some companies are now hiring two people to switch off with each other and thus share a job. This situation of course involves much clerical work. Also gathering momentum on the labor scene is flexible retirement. Workers now have far more control over their careers than in years past, and many want to retire early. This situation is tied to a current upswing in part-time work. An interesting feature of early retirees is that a very large proportion of them merely go on to work elsewhere, but what happens to a given industry when their workers start retiring early is that they have to replace those skills, and now they will have to replace them more often than in the past.

Graniteville Company, the oldest textile mill in the South, is 135 years old. General Sherman came through here but for some reason did not destroy it. The point is that in its early heyday our company had no trouble attracting the best workers available into the textile industry. A fitting analogy would be to say that at that time we were like the New York Yankees in that we could obtain first-round draft choices as our workers. By the seventies, however, after more industry had come to the South, even though it could be said that we were still playing baseball, we were playing with eighteenth-round draft choices and often losing by large scores. As a result we are now spending more and more dollars teaching skills, and the training time has become a lot longer than it ever was before. We used to be able to train a skilled weaver in about six weeks, but now it takes us ten weeks. These are hard things to say, but of course we are confident that we will in the future have a more capable and better educated work force to hire and train.

One of the measures I have undertaken for our company to meet this need is the formation of an assessment center for new employees in order to screen for potential supervisors. Of the first batch

of new employees who came through this assessment center, none had any college education at all and very few were even high school graduates. Now, however, half of them have at least one or two years of technical college and almost all of them are high school graduates. Among the better educated we hope to find our supervisors.

This takes us to the present and predicted costs of a college education. The cost of a college degree today is fourteen thousand dollars (state college) to twenty-four thousand dollars (private college); and by 1990 it is predicted to be forty-seven thousand dollars to eighty-two thousand dollars, or even one hundred thousand dollars. What is happening everywhere, including in our area, is that parents are considering these costs and deciding that their sons and daughters might better go to a technical college or a vocational high school and get a skill before they send them to college; or they may bypass college altogether. Unfortunately, for industries needing many skilled technicians, the counseling system in our state gets rewarded or reinforced only when it sends children to a university and not when it sends them to a vocational college or technical school. Perhaps it is apropos here to recall the prediction that by 1990 there may be 150 thousand unemployed Ph.D.s! I am not sure that I agree with that, but at least it is appropriate to keep in mind that large numbers of them may be underemployed.

Above all, the United States workers of the eighties have changed their perceptual styles. Today they may be characterized as overentertained, overstimulated, eyeball quick, visually oriented, time conscious, restless, and vocally critical. The American Association for Higher Education tells us that jobs in both the public and private sectors are becoming increasingly routine and requiring less and less worker discretion. It is exactly such jobs that the robots mentioned earlier are being called on to perform. Although such jobs have been set up to assure fair and efficient handling, they have often unintentionally resulted in worker boredom. One estimate is that three-quarters of today's jobs can be learned in less than three weeks. Of course, this is not true for our company or for many others. Moreover, recent data show that men and women, married and single but especially single men, are all spending significantly less time per week in paid work and thirty-six hours in leisure, whereas in 1975 their paid work consumed forty hours per week, and leisure time had risen to almost forty-five hours per week.

The magic word where the target for the eighties is concerned, is productivity. The Center for Productivity in Houston, Texas is now trying to set up regional centers for the areas of productivity —trying to promote it before industry and the business leaders as one of our salvations. With respect to this, Jan Margolis tells us in the October 1979 issue of *Training and Development Journal* that *new employee values are mentioned in every employee attitude study in the past seven years.* She reports that whereas by the old success philosophy what counted as success were acquisitions *outside the self,* such as a late model car, nice home, and job promotion, today by the new philosophy what counts as success is measured in terms of *inside the self* values: satisfactions found in leisure, in working environments that enhance one's self-esteem and, above all, in spending life in one's own manner of choice. Under the new philosophy there has been noted a steady decline in workers' concepts of job satisfaction and work and sources of "meaning in life," and above all, a decline in worker perception of being treated fairly by management. The above observer concludes that if management's response to the resultant slump in productivity is to increase control through stricter work rules, to supervise more closely, and to further fragmentize the work process, it is quite possible that "workers' growing discontent will seed into a generalized antagonism that will only cause a further decline in productivity growth through absenteeism, production slowdown, poor quality work, or in the extreme, strikes and sabotage."

I can give an example of this from my own company, keeping in mind that production can be represented by the mathematic formula: $$\text{Production (P)} = \frac{\text{output}}{\text{input}}.$$ When the company was going through the aforementioned seven-quarter slump we discovered that one reason people were not buying our goods was because the quality was not what it should be. The result of an extensive study showed that we needed better training for weavers. I translated that as saying that *we needed better supervision, and that perhaps the job assignments were too strict.* I therefore checked all the (fifty) weavers in one plant and found that only two weavers out of the fifty did not know how to do a certain procedure on the job. The problem, however, was that *none* of the fifty weavers was checking with a light for what is called "running defects," or an inspection that is supposed to be made twice during each shift. In other words, no inspections were being made for running defects, the kind of defect that results in garments being sold at lower price. The weavers were thus keeping up the production by not bothering to pick up the light, based on the premise that they were paid to keep production moving, not for inspecting the cloth. It is therefore important to remember that quality is an important part of production. The official forecast of the President's Council of Economic Advisors projects a productivity growth rate of only 1.5 percent per year over the next five years, in contrast to 3.2 percent before 1967. Even though our productivity is greater than that in Japan and Germany, our growth rate is lower. One concept that American industry may want to look at is Q (quality) circles, although we may not be able to use it as well as Japan, for example, because of our higher change in occupation rate.

One question that emerges is: Why is industry turning to its own sponsored vocational training rather than relying on area technical colleges? The answer is that industry finds that they can better control their own instructors than they can those in outside institutions. The Graniteville Company presently has forty full-time instructors that work for the Training Department, and that is all they do—instruct. Good times, recession, and depression, we still have forty instructors. In 1975, the last year of our aforementioned slump, our president asked me what I was doing and what our instructors were doing since we were not hiring at the time. I replied that we were cross-training instructors and *they* were retraining workers. He indicated that he was very gratified that we had not put our instructors back on production jobs, because, as he elucidated, when the situation changed a few months later, we would not have to go out and get together a whole new staff once again. He was pleased, and needless to say, I was also pleased with his attitude toward training. Industry can furthermore control the salaries and hours in industry-sponsored training. The educational level in industry training personnel is perhaps a little less than that required in academic situations; and one job that we in industry training do not do well is instructor certification. I believe that we need some way of certifying industry instructors.

Another implication of today's issues is the actual state of vocational training in specific areas. I cannot speak for the rest of the country, but I can say that in South Carolina we have literally come up out of the basement in vocational training. On the high school level we have fifty-four brand new training centers throughout the state and sixteen new technical colleges throughout the state. Our company's training center actually used to be in the basement but is now housed in a sixteen-thousand square-foot ex-armory building that was completely rebuilt inside and out by our maintenance department. We do not provide mobile training as yet, but some of our industries have their own traveling mobile laboratories. As for vestibule training, we find it highly instrumental in what we term "environmental conditioning." Environment is, I believe, a facet of life that we all too often take for granted. Vestibule training is employment-site, simulated-environment instruction. In the textile industry vestibule training is provided by setting up looms in a controlled atmosphere and training workers in this simulated environment at the textile mill itself. In our case this lab is entirely separate from the plant's training center. These vestibule training labs can get their needed supplies better than training labs in a school setting, and the factory can run them under actual plant conditions, as well as run some OJT with them.

Various experiences at Graniteville Company provide good examples of this need for acclimating a trainee to the work environment, but one in particular comes to mind. One of our local schools for EMR pupils wanted to place a number of its students with our company. They wanted us to provide some on-the-job training at their school, so we sent an instructor for this purpose and eventually brought the trainees into the plant as paid workers. At the time of initial training, however, we were soon made aware of the fact that adjusting to the manufacturing environment, a difficult task under any circumstances, was a serious hurdle to these students and one that called for our setting up the vestibule system. Workers who are familiar with buying fast foods or cars, or are used to cashing and depositing checks, for example, are usually able to adjust without too much difficulty to working in a fast-food restaurant or a car dealership or a bank; but very few potential workers are familiar with the manufacturing environment, and their adjustment understandably takes time and effort—and in some cases, vestibule training. My particular problem, and I suspect others' too, is that I do not spend enough time acclimating trainees to the environment.

Class size is also a matter of issue and implication to improving vocational programs. Industry likes to keep it small. Our classes have from one to four students per instructor; never any more. It is expensive, but *when we have had eight to twelve students per instructor, nobody has learned anything.* I am proud of an experience we have had in our work with the state of South Carolina Comprehensive and Technical Education. They kept increasing the number of students they wanted per class until each class was required to have ten or twelve students. The problem was that we just couldn't find ten students for some of our curriculum. As a result, we held no classes. I presented the case to the executive directors of the South Carolina Textile Manufacturers Association and the State Board for Comprehensive and Technical Education. I told them that Georgia Institute of Technology (Georgia Tech) had a highly successful plan in conjunction with the Graniteville Company Augusta, Georgia operations for handling the economics of small classes. Since Georgia Tech paid their instructors so much per student, they required a minimum of three students per class, with Graniteville paying the salary difference between having three students and having larger classes of, for example, ten students. As a result, the Georgia Tech classes at Graniteville had a student-instructor ratio of three to one, and the Georgia Tech instructors got from us only two or three dollars an hour per student differential. I explained to my listeners that on the other hand, our vocational facilities in South Carolina were insisting on ten to twelve students per class, with *no* classes held as a result. Following the discussion the three of us went to Georgia Tech to verify the functioning of the plan I had laid before them, and within two weeks the plan was in operation in the state of South Carolina. This is certainly a good example of adapting to the conditions of the times.

Equipment is likewise crucial to the development of vocational programs. It is always difficult to procure enough up-to-date, productive learning equipment. Machinery in the textile industry, as in any industry, is changing from day to day, but it is nevertheless important to maintain modern equipment because when students are learning on an old piece of machinery, their enthusiasm wanes quickly. *I often ask myself why industry has to furnish training equipment to the colleges and why machinery manufacturers do not supply industry/vocational school equipment at cost or below it.* The Graniteville Company, for one, literally buys hundreds of European looms each costing between thirty-six thousand dollars and perhaps fifty thousand dollars by the end of the year. My thinking is that with orders of such magnitude, machinery manufacturers could well donate to the establishment placing the order *one* such loom to learn on, but apparently they do not think that way. I believe this is a big mistake on their part. For some unknown reason, too, equipment funds are the first to be cut from any budget. One of my pet peeves is that the yearly building fund of a local university, on whose board I sit, is about double the amount of the equipment fund for the *entire* technical system of the state of South Carolina! As a rebuttal to this situation, vocational educators in South Carolina are considering a plan originating in Alabama that consists of buying one large mobile semi-truck equipped with the most sophisticated and best machinery available, and moving it from one of

our sixteen technical colleges to another. Thus instead of equipping all sixteen colleges, many more students would become familiar with the latest equipment, equipment that most companies do not have available for training purposes, but do eventually get for their manufacturing process. The savings realized by this plan would be considerable, and I am pleased that South Carolina is moving in that direction.

Curriculum is the final problem area of this discussion—a problem that feeds directly into ongoing research and development activities. Our curriculum and course design are managed directly by the company in cooperation with various instructors. Being aware of a certain amount of inbreeding in our company and after visiting the National Center, however, I realize that we should be working with you in developing materials. Our present forty instructors have been with us an average of twenty-five years each, and one retired this past spring with fifty-one years. Thus we would undoubtedly also benefit from bringing new forces into the company. What we now use a great deal of as instructional materials are the how-to manuals provided by most of the machinery manufacturers. These do a good job in explaining how to maintain and repair the machinery.

As a help in pinpointing the implications for research and development in industry-sponsored vocational programs today, a brief summary of pertinent questions and observations for the industry follows:

1. What is the educational level required to be an instructor in industry-sponsored vocational programs? Should not competency be considered in evaluating this "educational level"?
2. Do industrial vocational instructors need to be certified? If so, by whom? As part of this problem it should be pointed out that in industry, all expressed indications for change assume a "day before yesterday" character. The manufacturer cannot wait for three months for the appearance of a new course, a fact that should be considered in establishing certification methods.
3. What is the proper class size in the area of vocational programs?
4. Why don't machinery manufacturers supply equipment to industry/vocational schools at cost or below? Why must industry furnish this equipment?
5. Compare the results of two similar types of companies using the companies' instructors and techniques and the vocational/technical schools' instructors and techniques. Which system is the most cost-effective?

Just as I began this discourse with a review of prevailing conditions in the eighties and went on to consider how they serve to influence research and development for industry-sponsored vocational programs, let me close with a brief review of 1980 trends for the industry of training and development.

What I see ahead is management's growing support of the training area, which will no longer be under the area of personnel, but will increasingly be found reporting to a vice president or to the area of manufacturing or will be on the same level as manufacturing, with both reporting to the plant manager. This in essence is management's application of the APC formula (accountability, productivity, and cost-effectiveness). I also see growing involvement in *education, as a lifelong learning process,* not only on the part of human resource development (HRD), field educators, public and private sectors, but also on the part of government itself. I should like to emphasize that this educational trend is one that encompasses much more than industry business. It should be mentioned, moreover, that vocational education is doing a good job of involving all sectors of our society in promoting this enlarged application of education. In this regard I am pleased to say that I am about to return home to South Carolina, whereupon our company will invite all the people from our area industry and business to a barbecue lunch. We plan to advise them there of what we believe is going to happen in

the technical system in the 1980s and ask them what exactly they think we should be doing both locally and nationally in the system.

With respect to government involvement in the technical scene, a topic that invariably exercises many people, let me share another of my company's efforts. We recently invited two congressmen and one senator to speak to two hundred of our employees. The invitation came from what we call our government awareness committee. Fritz Hollings, our U.S. senator from South Carolina, spoke to us with great candor at this meeting, but the one piece of information that was most memorable to me was that ours was the largest industrial group he had ever spoken to on company time! He had met with members of the group at dedications, high school programs, and outside the factory gate to say, "Vote for me," but never together in a group as members of industry. This is a sad commentary indeed, and it is my hope that some of you will want to further government involvement by inviting an assortment of local politicians in to speak at the National Center.

Technological advances such as robots, computers, microcircuitry, and miniature television systems with flat screens complete my list of trends for the eighties.

Finally, I am sure that it will come as no surprise when I close this address with a few words about the association, the American Society for Training and Development, itself. The ASTD characterizes market needs as the driving force in the 1980s. We see the market as the following process:

1. ASTD gets the information to the organization being served.
2. The organization being served comes to (deals with) the membership.
3. The membership gets their information from the ASTD.

Thus, all those loops are closed and the ASTD becomes a market-driven society instead of a profit and loss society, which is what we were for the last four years. In addition, we see the forces of training and development, HRD, other specialists, suppliers, consultants, educators, and our Washington office tying up this loop of market needs of ASTD's strategic plan.

One of the divisions of the American Society for Training and Development is professional development, an area of concern that in my estimation has much in common with those of the National Center. Other areas where we share a similarity in outlook and purpose exist, and I should like to point them out here. The ASTD holds institutes throughout the United States, develops career training programs, and has a National Forum where we discuss training and development issues; we work in cooperation with various organizations such as the National Conference Center; we have recently sponsored our second annual research seminar; and we are working with the HRD Academy, trying to get individuals with real skills into a kind of "think tank" so that people who have risen to the top can share their ideas and concepts and perhaps even solve some problems for us. The leadership of the National Conference is comprised of only 150 people. Training and development bodies and HRD feel the need of coming together once a year to share ideas at the National Conference, where the consultants or the speakers sit in the classes with the students, and the students sometimes become the speakers. We also have journals and hard- and soft cover publications. It is my understanding that there are many forms of our common endeavors that ASTD and the National Center for Research in Vocational Education can and should be sharing.

In conclusion, it is evident that vocational education has come a long way since its inception. It has certainly advanced markedly since my arrival in South Carolina in 1962. But much remains to be done. Our ASTD Carolina chapter works throughout our company, throughout our state, and throughout our region to promote vocational skills. We have learned to work actively together, and this working together may be one reason why a lot of industrial growth has been reported in the South.

QUESTIONS AND ANSWERS

Question: You say you have forty trainers. I'm interested in how you select those people for the training role. How do you and the training directors get those people who have been on the production line for thirty years prepared for this completely new role of instructor?

I'll try to summarize. First of all they have to be able to do the job for which they are going to be instructors. That is the first prerequisite. Generally, if you take the profile of an instructor and a profile of a potential supervisor, they will be almost the same. They get along with people, have a good work record, good attendance, and good attitude. Instructors have to be recommended by the supervisor. We go out and actually watch them to see whether or not they can do their job. *We do not want the best, the fastest people to be instructors.* We want people who know how, and are doing the methods correctly, so that we don't have to unteach them and then reteach them the correct procedure. Once we pick the instructors, we then put them through one-on-one with a trainer for about two weeks. They go through the technique and then they go out with another instructor and spend about two weeks; and then the new instructors are ready to start with their first group of new students. That is generally how it goes. Pretty much one-on-one for about two weeks, with my assistant using such techniques as OJT and JIT. Every job has a manual and it has step one, step two, step three: they go right through it. It is very similar to the steps we might use to teach how to put together a table: we would have a lesson on how to put on the left leg, then how to put on the right leg, then we would see how fast the workers could do that, and then we would have them put on the top. We would have exercises to see how fast they could put the top on. Thus we use pretty much the Textiles Analytical Methods Training (AMT).

Question: Do you have courses in counseling, retirement, etc., in addition to skills training?

To give you an honest answer, no.

Do you foresee including anything like one-on-one retirement counseling or correspondence study (ICS)?

I see two things happening. One, we do spend a lot of one-on-one with people who are going to retire from our company. They go right down along with the supervisor to the main office, and spend a lot of time talking and planning their retirement. I think the field you're talking about is fairly new. Two, we do have the reimbursement policy at our company: 75 percent off courses they take at any universities or colleges or ICS. We use ICS, by the way, pretty heavily for correspondence study. I think the importance of adult education is something that students begin to realize as they get older. It is a whole field, and again I don't think we're doing a very good job of it.

Question: If you were developing a training program for training directors, what do you see as the biggest need?

Needs assessment is the biggest area of need.

The ability to perform needs assessment?

That is my opinion. I think the story I used about quality applies here. The report stated that our weavers needed to be trained better, but when I read the report I interpreted this as pointing out

that *what the weavers were doing needed assessment.* We didn't need more training, we needed better supervision; and the jobs were too tight. Only somebody who has been around awhile and has gone out and actually tested the workers is able to see that. Our weavers knew how to do the job, and they knew what they had to do; but they weren't doing it. In this case, the problem lay in the fact that the supervisors needed to be trained, not the weavers or the people in quality control. Needs assessment, in my opinion, is number one.

Question: Did you state that training time is becoming longer? What is the difference between an eighteenth-round and a first-round draft choice?

Let me state it this way. First of all you have to realize that I'm an outsider in my company. I came from California and was not born and raised in the area, so perhaps I can say this. Prior to the fifties and sixties they had people standing around on the job in the textile industry. They had an excess number of people. No training programs were in operation because the workers learned on the job. If a department needed ten people, there would be twenty-five in the room. To stop being bored, a worker went and learned another job, so that when that other person died, the self-taught worker was already trained for it. A good example of the results of this situation occurred when Kimberly Clark moved into our area. We went on a company tour of their new facility, during which we looked over and saw an employee who had been with our company for fifteen years and was one of the best technicians we had. This person was literally taking tissue out of a box and throwing it in the trash can for the new company, and making two dollars more an hour than he had been at our company as a technician. Now that is a problem. (The technician was replaced with an eighteenth-round draft choice.) When a new company comes to the south, they don't pick twenty-year-old workers. The first thing they do is get people who have had five good years of service with a local company, and use them to build their nucleus. They don't take eighteen-year-olds and train them; they take the nucleus of all the other companies to start their company, and pay them two dollars an hour more.

Question: Will trade unions increase or decrease as a trend for the eighties?

I will probably be attacked on this, but I guess I'll give Craig Musick's opinion. This is not the opinion of ASTD or Graniteville Company, but my own. I think the unions are going to go where the action is, and to me the action is where the South is. There is less unionization there; we have 7 percent in the state of South Carolina. I think they are going to come down there like a bird dog on a covey of quail. That's what I would do. Now if you don't have a union, then you are going to have to do a good job in order not to become unionized. That's our company's philosophy: not to unionize. I think we will be spending a lot of time working with our people. The organizers are coming in all the time. They are not into organizing big companies yet, only the smaller ones. But they are there, and it is just a matter of time.

Question: What is your position on apprenticeship training? Are your job request system and the bid system the same as apprenticeships?

Indirectly it appears by what I said about the job request system, that we are going into a kind of apprenticeship program and that there will probably be an increase in this type of program. It might be called apprenticeship, but it really won't be those magic words. What we have in our request system is more like a stepping-stone. In our old system anyone who had the longest seniority with the company, and was still breathing, could apply for the job and get it. Under our new system, the worker will go through a step procedure. Such workers will at least know something about the machinery they're bidding on. They will already know something about it, so the job request system

will be a step procedure. Thus our company may seem indirectly to be going into a kind of apprenticeship program where workers who want to advance will bid for each step of the ladder. When they request those jobs, however, it will all be on computer and the supervisor will know in advance who bid on or requested those jobs. Thus when someone is retiring or leaving, they will know who should be put on the job. It will not be necessary for the supervisor to go out and put a notice on the board. I think this system is going to be a big help to our company and that it will reduce turnover.

Question: Do you in your industry, more than ASTD, have a method of exchanging information about curriculum, research, reports, etc.? Are curriculum needs being met? What other needs do you have that we could meet?

I have to say no to your questions. I don't know everything on that, but I don't believe we are doing a good job. The newest thing that ASTD has is our research committee. We are really looking at research now, but the committee has had only its second invitational seminar. As for industry-wise, I don't know. I haven't thought about it until now.

Question: Is there any problem with trade secrets in industry?

No, not in my experience. When we went on the job request system I went to four different textile companies. It may have been who or what I was, but I walked in the door and talked to them, and they knew who I was, and I got company policies. I got anything I wanted. Let me repeat, *anything I wanted.* When they came to see me, they got anything they wanted too. At the time I couldn't believe it. Another man from our company accompanied me and he kept saying, "I don't believe it!" I would tell the company I was visiting that I wanted their company policy on the results of the test they did on loom fixtures, evaluation on the validation study, etc., and they would say, "Certainly," and be back with it in a minute. These were our big competitors, making the same kind of product we do.

Is that unique in your industry?

I don't know. It must be. They do some pairing up, but they don't give away any secrets on how to make cloth, just secrets on procedures, policies, personnel, and that type of thing.

Question: When do they change a loom machine part? Has the technology changed much in the past few years?

A loom technician can change a part any time. However, I would say that three changes have occurred in the technology. One is that the looms have gotten wider. Suppliers want wider, longer pieces of cloth. Two, they are faster and now they're trying to make them quieter, too. If you've been in a weave room, it is deafening. You wear earplugs. The new looms are made in Switzerland and are both sixty-eight inches wide. They both have two warps. The bad thing about them is that when one warp goes out, the entire machine stops. We do not want a person that fixes a throw-through loom, which is a beautiful piece of machinery that looks like a Rolls Royce and does all kinds of things, to be a hammer-banging individual. We want the fixer to have the precision of an old-world artisan. So in that way there have been changes, but overall I don't believe that the basic loom fixture has really changed much in the past forty years.

Question: What does the technician do? Does he weave cloth?

No, he does not weave cloth. Basically something either wears out or something gets out of alignment on the loom, and the weaver or supervisor sees something giving the cloth a defect, and it shuts off. They write up what they see, and the loom fixer (technician) starts changing the gears or shuttle, or whatever that he sees is wrong, and repairs it.

What part of the machine can the technician service?

The whole machine. A loom fixer has 100 percent responsibility.

Question: In reference to training within the company, do you have ties between the technical schools and the company?

The doctor who introduced me didn't tell this. I'm a training director and I'm the chai man of the board of the Aiken Technical College. I'm the only chairman they ever had. We equipped the textile part of the school. My time and services, which have been quite plentiful, are pretty much available to the college. Whenever the machinery breaks down we do fix it—at no cost. Graniteville Company pays for it. As far as programs go, we have a two-year textile management course that we have developed to work with the Aiken Technical College along with their CETA program, a program I have been asked about by everyone here. In South Carolina we call it concentrated. We use CMP to train weavers at Aiken Technical College, and we hire those people. All the companies work *very* closely, not just Graniteville, but all the companies in the area. We have a full-time industrial representative who goes around and visits industry daily, and if not daily, as fast as he can get around. We involve ourselves not only in the vocational area or the technical area, but also in the area of supervisory courses. Our technical area commission is really made up of business people, people who are using the college; and from that we have made a foundation. So I would have to repeat that we work closely. We also give money to the Aiken Technical College. Not just our company, but just about all the companies in South Carolina do that. A specific example of the kind of help that is provided is the Gold Room in Lancaster, South Carolina. When Dr. Myers was the superintendent of schools, Spring Mills came in and built a whole school for them; and then they made a special room, the "Gold Room," where they put all their equipment, and then started training their people. Yes, we work closely in our area. I think that may be one of the secrets to our success. Perhaps it isn't exactly a secret, but certainly a factor that makes us successful.

Question: Are the technical skills needed very unique? If you hired from a competitor, would you have to retrain for your company's specifications?

It would depend on what specific job you were talking about. If the employee was trained on the same kind of machine it would take very little time—one week. Generally a textile employee can transfer job skills from one job (competitor) to another.

What about vocational people with skills?

Most of the time, as AT&T says, if they can just read and write, and have manual dexterity, we will teach them. If they want to learn and put out the effort, we will go the extra mile with them. A prime example of this is a trainee of ours who after six weeks simply could not do the job. I looked at her work record and she had been there for six weeks and never missed a day. Still

she could not do the job. I looked around but could not find a job for her, and I almost had to cry to think I had to tell her we had to let her go. The next day someone in our company called and said he had found a job for her. Luckily we had not released her yet, so she was so happy. She is still empioyed, by the way. If they can't make it, but have a good attitude and good attendance, we will try to find a job for them if one is available.

Question: Tuition aid is something usually provided by companies. How do you see the growth of the tuition aid programs and their use?

Ours has been about level these last two or three years, rather leveling off. I think this information is one of the best-kept secrets in our company, but I don't know why. I don't know whether the supervisors are afraid of it or what. I do believe that more industries are going to offer continuing education. However, that is just a reasonable calculation I have made. Because the age eighteen to twenty-five population is going down, they are going to have to go out and get some folk, who in turn will be looking more to continuing education. And people will say, "Well, maybe my employer will pay for part of my tuition."

Question: Is your annual conference open to nonmembers, and can you give us some where and when information?

Surely. The next one will take place the last week in April at Anaheim, California and I have left a brochure at the National Center. I'll be glad to send some more later. I think the cost is about $175 or $185. About three or four thousand attended last year in St. Louis. What floors me is that we already have eight hundred people signed up at the early bird announcement. The program wasn't even at the printer's yet. We have the program out now, but it is somewhat frightening to have eight hundred sign up without a program announcement! We are going to have Evan Newman and other "heavy" speakers. All the gurus, as they say, will be there.

Question: What role do you see for institutionalized education in vocational training?

I think it will continue, but when I start to think about Proposition Thirteen and some other events that are going on even in the state of South Carolina and throughout the country, I have a feeling that perhaps vocational education may be the first to be cut. We don't have the legislative support in vocational education that the colleges and universities do. This is my opinion and I speak just for South Carolina. South Carolina spends more money on higher education than it does on vocational education. Actually, South Carolina is number two in the nation where money spent on higher education is concerned. In postsecondary vocational education we get almost a thousand dollars per head to train someone, and the high schools get thirteen hundred. It is rough. We may have to dip down before we go up again, but perhaps I am presenting a dim view.

Question: Given two potential employees, one with basic skills and another with that plus vocational training, which one would you prefer and who would get the higher salary—and would this be based on competency?

That is a good question. If we had a need in the maintenance area, for example, these workers would come in at a certain grade. If they could show that they could do those various skills at an apprenticeship level, they would move right up the ladder. And yes, advancement is based on compe-

tency in all of our maintenance areas. Our company has a very extensive maintenance program. We have twelve plants and we maintain all the equipment in them. At entry levels if our workers went to our Aiken Technical College and learned to weave, then they would come in at a higher wage. To let you in on our future plans, though, we are thinking very strongly now of putting a vocational high school class in our technical center just for a couple of years to see whether or not it would be successful. We like the idea of apprenticeship, and if we could bring these "players" in the eighteenth-round draft choices up to at least fifth or sixth, that would be a good pool of workers for us. When I talked to our plant manager about this, he reminded me that the high school vocational training center has always been for training workers for the car dealers, the air conditioning people, the welders, and those folk, but *nothing* for the textile industry. He reminded me that we're the largest employer in this area, and asked why we aren't doing anything for our own industry. I told him that I was going to present our plan and try to get it started. Of course you can't start high school student trainees at entry level wage, but rather give them what they're worth. Our company told me that if we could forge the agreement and launch the program, they would boost the payoff. I said okay. We have a small problem involving our usage of our facility, but I have already laid out a contract for a year and one-half. The vocational people will bring the students to us, use our equipment—the whole ball of wax, and then we will give them vestibule training and put them on the job. We're in there working.

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